Xcel Energy℠

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Minneapolis, Minnesota 55401-1993

April 28, 2004

Mr. William Cole Storm, CHMM
Project Manager
Minnesota Environmental Quality Board
300 Centennial Office Building
658 Cedar Street
St. Paul, MN 55155

Re: Xcel Energy Blue Lake Expansion Project Site and Route Permit Application
EQB Docket No. 04-75-PPS-Xcel

Dear Mr. Storm:

As you are aware, at the March 11, 2004 public meeting regarding Xcel Energy's proposed Blue Lake Expansion Project and in the March 19, 2004 letter to you from the Shakopee Parks and Recreation Department, several issues were raised regarding the transmission interconnection route proposed for the Project. This letter provides information on these transmission route topics to supplement our February 10, 2004 Site and Route Permit application (the "Application") that was accepted by the EQB on February 17, 2004.

Specifically, the City of Shakopee's concerns relate to the potential impacts to the oak savanna resource that the proposed transmission interconnection route crosses south of U.S. Highway 169. The property parcel is about 50 acres owned by the Minnesota Department of Transportation and is commonly referred to as Parcel No. 75.

Xcel Energy Proposed Route

The proposed transmission line route runs parallel to an existing Xcel Energy 345 kV double-circuit line that passes over the western edge of MNDOT Parcel No. 75 for a distance of about 1100 feet. The proposed 115 kV/230 kV route will require an additional 45 foot wide right-of-way immediately east of the existing line right-of-way. This is a change from the Application, where Xcel Energy stated the new line would require a 70 foot wide right-of-way. The proposed route and alignment in relation to the existing line are shown in Figures 2-1 and 3-4 of the Application,

respectively. We have reduced the proposed right-of-way width to address the concerns regarding Parcel No. 75. Copies of Figure 2-1, and a revised Figure 3-4 reflecting the narrower right-of-way width, are attached.

Alternatives to the Proposed Route

Xcel Energy did not consider other routes for the transmission line in the Site and Route Permit Application because of the proximity of the existing Blue Lake Substation and the McLeod to Black Dog 230 kV transmission line to each other and the Project. Choosing a route parallel to the existing 345 kV transmission line is consistent with the State's nonproliferation policy for selecting transmission line routes[1]. Xcel Energy rejected paralleling the 230 kV double-circuit structures that run along the eastern edge of Parcel No. 75 because of potential greater impact to vegetation and closer proximity to a greater number of residences than the route along the west edge of Parcel No. 75.

The City of Shakopee asked for additional information regarding several alternatives to the proposed transmission line route at the March 11, 2004 public meeting and in their March 19, 2004 letter to you. The alternatives include reconductoring the existing lines, adding additional circuits to the existing line structures, considering alternative route to the west from the Plant or an alternative route to the east of the Plant. Additional information on those alternatives and the alternative route adjacent to the 230 kV double-circuit lines that runs along the eastern edge of Parcel No. 75 is provided in the following paragraphs.

Reconductoring/Additional Circuits on Existing Lines

Xcel Energy's current proposal is designed to accommodate the Blue Lake Plant expansion in a timely manner.

The only option not requiring additional transmission lines to support the proposed Blue Lake expansion would be for Xcel Energy to add a 345-115 kV transformer at the substation. Given the tight timeline to meet the generating plants in-service date, we cannot get that type of equipment delivered and installed in time. Those types of transformers have very long lead times to build and deliver.

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[1] People for Environmental Enlightenment and Responsibility (PEER) v. Minnesota Environmental Quality Council, 266NW2d858 (Minn. 1978)

Reconductoring the transmission lines will not address the outlet capability issue. It is the outage of the 115 kV transmission line that overloads the existing 345-115 kV transformer.

Adding the proposed 230 kV and 115 circuits to the existing lattice structures is not technically feasible. The structures have been designed only to accommodate two transmission lines.

Alternative Routes for a New Line

The proposed route and three potential alternative routes for the transmission interconnection are shown in Figure S-1. Alternative A is a route parallel to the existing 230 kV double circuit line running along the east edge of Parcel No. 75. Alternative B is an alignment that runs west along north side of U.S. Highway 169 and then crosses over the highway to connect to an existing line west of Dean's Lake. Alternative C crosses U.S. Highway 169 immediately south of the Blue Lake Substation and runs east along the south side of U.S. Highway 169, then turns south parallel and just west of County Road 18 to the existing line.

All three of the alternative routes are technically feasible. The relative impacts of the alternatives and the proposed route are summarized in Table S-1. Considerations include length of the route; right-of-way area requirements and number of property parcels affected and their zoning classification; length of crossing in Parcel No. 75; tree clearing required; proximity to residential and commercial dwellings; and cost. Although slightly higher in cost than Alternative A, Xcel Energy believes that our proposed route is the best option, particularly when coupled with a well-conceived construction and maintenance plan. We have addressed that issue in the next section of our letter.

Table S-1 Alternative Route Comparison Summary

	Proposed Route	Alternative A	Alternative B	Alternative C
Length (feet)	4,000	3,400	12,000	6,300
Approx. required additional ROW (acres) (excluding Xcel Energy property and U.S. Hwy 169 ROW)	2	2	8	5
Approx. property parcels crossed (excluding Xcel Energy properties and road ROW)	1-2	1-2	1-2	1-2
Approx. length through Parcel No. 75	1,200	1,500	0	200
Approx. Tree Clearing Required (acres)	2	2	5	3
Residences within 200 feet	0	>10	0	>10
Land Use Zoning Classifications along Route	Light Industrial Urban Residential	Light Industrial Urban Residential	Light Industrial Heavy Industrial Office Business Highway Business	Light Industrial Urban Residential Community Commercial
Commercial buildings within 200 feet	0	0	4	1
Estimated construction cost ($ million)	1.5	1.3	4.5	2.5

Xcel Energy Project Plans

Parcel No. 75

What is an oak savanna?

The primary area of concern expressed by the City of Shakopee is parcel No. 75, which is owned by the Minnesota Department of Transportation. Xcel Energy was the previous owner of the site and still maintains easements for the four transmission lines that currently cross the site. The site was formerly part of the Blue Lake Plant site, but Xcel Energy sold the site to the MDOT when Highway 169 dissected the parcel.

The vegetation in Parcel No. 75 has been previously classified by the Minnesota Department of Natural Resources as a dry oak savanna barrens subtype, as noted in Section 4.6.3 and Figure 4-8 of the Site and Route Permit application.

Deciduous savannas are plant communities found in the prairie zone/deciduous forest-woodland zone transition in Minnesota. These plant communities are composed primarily of oak trees (sometimes with aspen trees, or both) with a ground layer of prairie grass and forb species. The oak and aspen trees are distributed either evenly or in scattered groves smaller than 1 to 2 acres with tree canopy cover typically being less than 70%. It is important to note that while the site name highlights oak trees, the primary term to consider is a savanna, which consists of large grassy areas with few trees. In a dry oak savannah, the primary plants are ground layer species such as leadplant, little bluestem, and big bluestem.

Deciduous savanna communities are an early successional community. In the absence of periodic ecological disturbances, they will eventually become another type of plant community – in this case oak forest. Historically, savanna communities have been maintained by fire and by grazing bison and elk. With fire suppression over the last 50 years and the loss of grazers, many areas of savanna have succeeded to woodland or forest. Grazed woodlots and pastures may superficially resemble native savanna (especially when viewed in aerial photographs) but degraded forest or woodland lack the native grass and forb prairie understory that is always present in ungrazed savannas.

The MDNR publication Minnesota's Native Vegetation: A Key to Natural Communities. v1.5 (1993) recognizes three types of deciduous savanna – dry oak savanna, mesic oak savanna and aspen openings. The Parcel No. 75 site is a dry oak savanna – barrens subtype. The MDNR County Biological Survey Map Series

(#18 – 1998) for natural plant communities of Carver, Hennepin and Scott Counties maps a large portion of the site as dry oak savanna – barrens subtype (see figure S-2). Dry oak savannas have an undulating to rough topography with slopes of various degrees; the habitat is dry to dry-mesic; the sites are well drained to excessively drained; and have herbaceous ground layer vegetation in open areas similar to that of dry prairie – barrens subtype. Savanna and woodland plant communities were historically found adjacent to the Minnesota River along the northern edge and the eastern one-third of Scott County, and were intermixed within the hardwood forest matrix in the southern and central parts of the county (Marschner, 1974). As noted in the City of Shakopee's letter, within the state of Minnesota 99.9% of the oak savanna communities has been lost to urban development, agriculture or successional degradation to oak forest. We believe that the City unintentionally stated that this site is the last remaining oak savannah in the entire Minnesota River Valley, given the above information. For instance, there is an oak savannah in Sibley Park, Mankato. However, we would agree that it is one of the few remnant sites remaining, although we believe it to be in a degraded state.

Quality of the Site

On March 29, 2004 Jeff Lee and John Lee, Barr Engineering Co. and Pam Rasmussen, Xcel Energy conducted a site visit. Due to the season of the year it was difficult to complete any type of ground layer vegetative survey, but general vegetative structure observations and some plant identification were completed on Parcel No. 75. Attachment 1 is photographic documentation of the condition of Parcel No. 75 observed during that site visit.

The site is currently a degraded dry oak savanna fragment that has been impacted and ecologically isolated by urban developments on the east, west and south, and the Highway 169 transportation corridor to the north. The tree canopy is composed primarily of pin oaks with a few chokecherry and some stands of sumac. The oak canopy has closed in many areas so that coverage is nearly 100%; in other areas red cedar, large numbers of aspen, and common buckthorn have overgrown the site, further increasing the shading of the ground layer. The site has been and continues to be impacted by invasive species, erosion due to ATV and vehicular traffic, and illegal dumping. The site appears not to have been burnt in the last twenty years (or more) given the age of the fire intolerant trees on the site.

Several native species were found on the site that are noteworthy indicators of the savanna community; Leadplant (Amorpha canscens), prairie clover (Petalostemon sp.), little bluestem (Schizachryrium scoparium) and several other clumped native

grasses. The invasives found on the site included common buckthorn (R. cathartica), Tartarian honeysuckle (Lonicera tartarica), spotted knapweed (Centaurea maculosa), sweet clover (Melilotus sp.) and bluegrass (Poa sp.). Browse damage from whitetail deer and rabbits was also evident throughout the site.

Within the adjacent transmission corridors, clearing over the years has allowed common buckthorn (R. Cathartica) and Tartarian honeysuckle (Lonicera tartarica) to become the established woody vegetation. Within these corridors some of the native ground layer still appears to be present. The narrow strips of vegetation between the transmission corridors and the residential developments to the east and west are currently heavily infested with invasive species and provide easy movement of invasives into the savanna remnant.

Xcel Energy notes that in the attachments provided by the City of Shakopee in their March 19, 2004 letter, the locations of several oak savannah plants and animals are found on the right-of-way of Xcel Energy's existing transmission lines on the site. This may be due to the open landscape that has been maintained by Xcel Energy clearing practices. Most ground layer plants in oak savannah landscapes thrive in open conditions. In areas where trees have overtaken the site, such as the remainder of the parcel, the diversity of plant and animal species appears to be lower and more indicative of an oak woods setting.

Xcel Energy Proposed Construction and Maintenance Measures

Xcel Energy is committed to preserving, and if feasible, enhancing the quality of natural resources along its transmission corridors. The company has entered several partnerships with other agencies, communities and schools to enhance prairie and savannah landscapes found under or near its transmission line facilites. This type of partnership not only protects a rare resource, but also often benefits Xcel Energy with reduced maintenance costs since these types of landscapes have few trees, thus reducing our clearing costs.

The initial assessment completed in March indicates that restoration of the site to something more indicative of an oak savannah is possible. To be successful, all of Parcel No. 75 would need to be restored. Xcel Energy believes that its facilities, both existing and proposed would be compatible with such a restoration, if it occurs. Major restoration of the transmission line ROW would not be cost-effective without similar plans executed on the remainder of the parcel. Until then, properly planned and executed management of the proposed right-of-way will not have a negative impact on this marginal oak savannah. Xcel Energy is willing to develop such a plan for this project. Input from the City of Shakopee, the

Minnesota DNR and EQB staff would be considered in the development of the plan. Attachment 2 outlines general methods of savanna enhancement that could be employed for Parcel No. 75.

The construction process for the proposed transmission line is described in Section 3.2.3 of the Site and Route Permit Application. Significant disturbance will be limited to the area adjacent to the structure foundations. Only one or two structures are anticipated in Parcel No. 75. In addition to the measures described in the application to minimize construction impacts specific actions will be taken to minimize adverse impacts to the oak savanna resource, as outlined below.

Prior to construction, Xcel Energy will develop a construction and maintenance plan for the transmission line corridor on this site, which will include:

- Qualified biologists will assess the site in the spring and fall of this year to review the flora and fauna of the site. Should any endangered or threatened species be identified, the sites will be mapped and efforts to minimize impacts will be incorporated into the design, construction and maintenance of the line, as well as the clearing of the ROW.
- Xcel Energy Vegetative management staff will assist in developing a vegetative clearing plan that will selectively clear the site in order to retain some of the oak savannah community plants. All tree management decisions would continue to follow the constraints of maximum tree height requirements for the transmission lines. As many savanna species can sprout from cut stumps, this will allow for regeneration and management that should benefit the savanna community.
- It is possible, through planning and training, that Vegetative Management activities can ecologically beneficial to the adjoining plant communities. The Vegetative Management area has several programs in effect, such as Project Habitat, that include selective clearing and herbicide treatment that will be helpful in this situation. There are several invasive plants such as buckthorn and garlic mustard that Xcel Energy can work to control on its site. Garlic mustard infestations can also be controlled by applying a solution of glyphosate (Roundup or such) to the foliage of individual plants and dense patches during late fall or early spring. At these times, most native plants are dormant, but garlic mustard is green and vulnerable. Herbicide use is safest for native plants if done during the dormant season, as garlic mustard will grow as long as there is no snow cover and the temperature is greater than 35°F.
- Measures will be set up prior to construction of the site to minimize impact to the vegetation of the site. We will attempt to construct the line between

October and May, after the plants have gone to seed and prior to new growth.

- Areas disturbed by construction will be graded and re-seeded with native plants that are typically found in an oak savannah.
- The site will be posted with signs indicating the significance of the site and noting that any management on the site should not be done without reviewing the site construction and maintenance plan for the area.
- The plan would need to support the Company's need to manage the tall-growing trees in the right-of-way. Xcel Energy cannot support any plans that could impact the reliability of the transmission system. For instance, managing of the site by using fire could not be supported unless a plan could be developed and executed that did not impact the transmission lines and reliability.

Should MNDOT, the owners of the Parcel No. 75 property, or a future owner of the site decide to develop and implement a management plan for Parcel No. 75 to restore the oak savannah, Xcel Energy would be interested in partnering with them. If local landowners are interested in assisting management of the site, we would be happy to work with them.

Xcel Energy would also consider developing a management plan for the Blue Lake Plant site should other parties want to partner with the Company. We have reviewed the area around the plant and have found it also a degraded oak savannah parcel with additional impacts of grazing by horses or cattle. At a minimum, Xcel Energy will reseed the areas outside the fenced plant and substation areas, the roads and parking lots with native plant species common to an oak savannah ecotype.

We appreciate the comments from the City of Shakopee on this important Project and hope that the information included in this letter addresses their questions and concerns. We believe that the proposed transmission line across Parcel No. 75 can be managed to not only prevent adverse impacts to the oak savanna, but, when coupled with an aggressive mitigation plan, can actually result in enhancement of that resource.

We look forward to working with the EQB, MNDOT and the local community to preserve and enhance the natural resources in the Blue Lake area. We plan to discuss the project in more detail with Shakopee in the near term.

Sincerely,

James Alders
Manager, Regulatory Projects

Enclosures

- Figure 2-1 of the Site and Route Permit Application
- Revised Figure 3-4 of the Site and Route Permit Application
- Figure S-1 Alternative Transmission Line Routes
- Figure S-2 MCBS Native Plant Communities and Existing Land Use
- Attachment 1 – Parcel No. 75 Photographic Documentation
- Attachment 2 – General Methods of Savanna Enhancement

Proposed HVTL Route

Alternate HVTL Route

Feet

0 2,000 4,000

Figure S-2

ALTERNATE
TRANMISSION LINE
ROUTES
Xcel Energy
Blue Lake Generating Plant
Expansion Project

LEPGP Site

Approximate Alignment of New Transmission

N

W E

S

Feet

0 300 600 1,200

Figure 2-1
PROJECT LAYOUT
Xcel Energy
Blue Lake Generating Plant
Expansion Project

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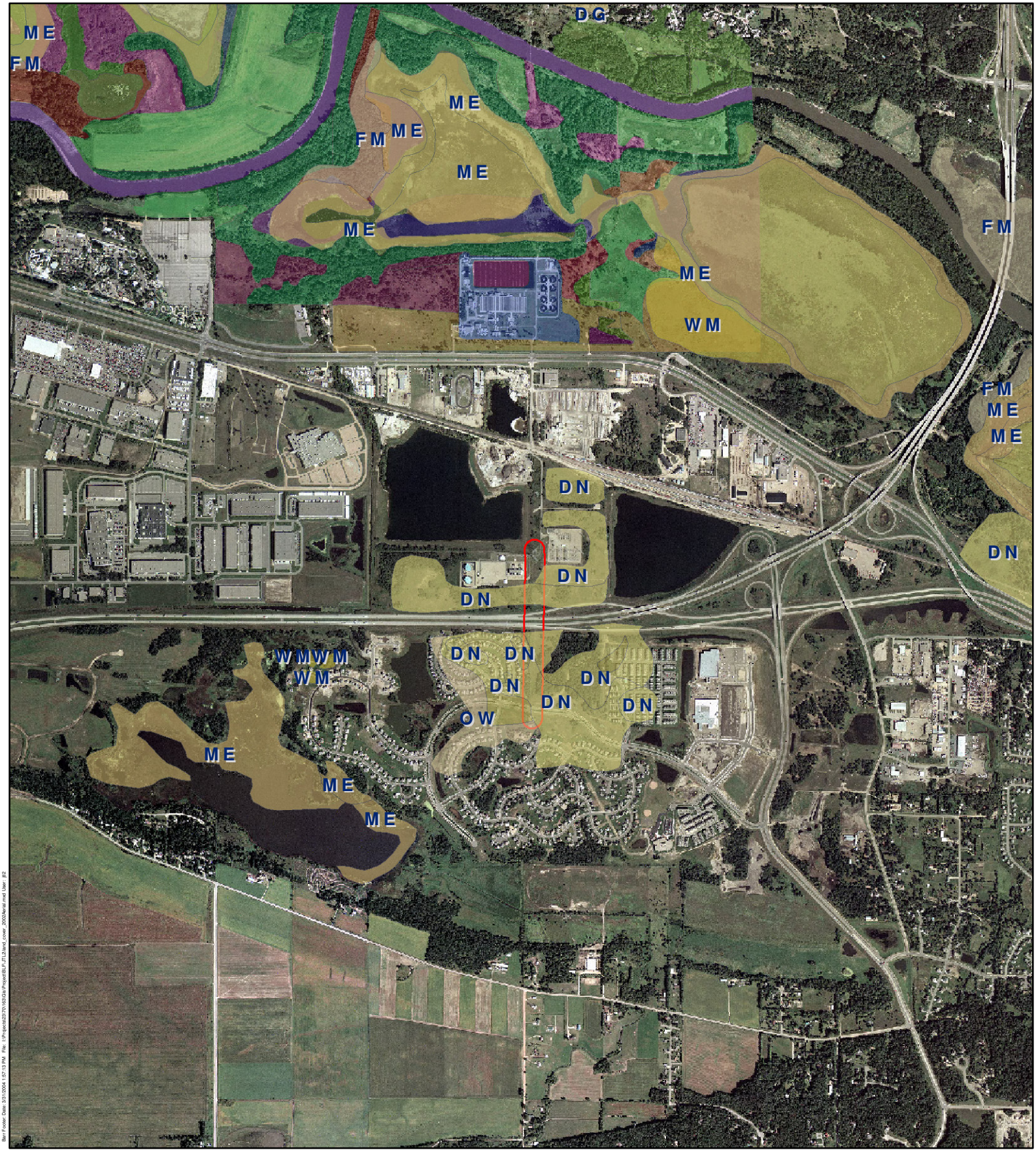

2,000 1,000 0 2,000

Feet

N
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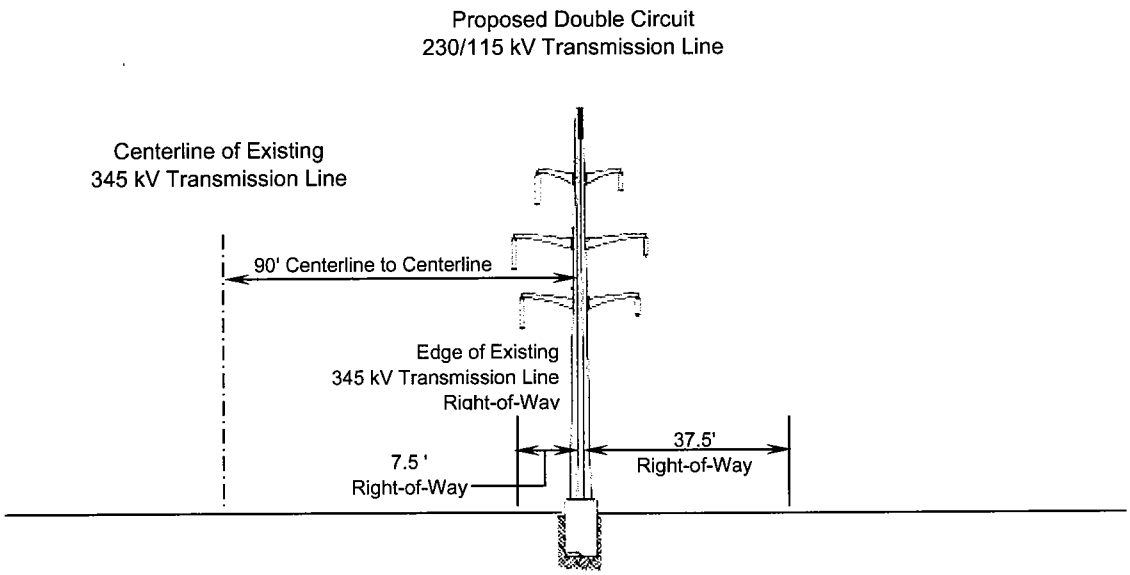
FIGURE S-1

Excel Energy Blue Lake Expansion
MCBS Native Plant Communities
and Existing Land Uses



Not to Scale

Figure 3-4 (REVISED April 16, 2004)
TRANSMISSION LINE
RIGHT-OF-WAY REQUIREMENTS
Xcel Energy
Blue Lake Generating Plant
Expansion Project

Attachment 2

General Methods of Savanna Enhancement
(General Guidelines Xcel Energy would follow if a plan were developed)

The Parcel No. 75 savanna is in dire need of restoration as the system is approaching collapse due to the shading loss of grasses and forbs, as well as erosion induced losses and invasive species displacement. In order to be successful, cost-effective and beneficial in the restoration of oak savannahs in the area, Xcel Energy believes that full-scale restoration should only be done for the entire parcel.

Enhancement or restoration of the site would need to focus on three ecological functionalities:

Restoration of ecological structure:

Restoring the physical location
- cut and herbicide non-native woody plants
- thin overstocked native trees
- reintroduce native shrubs
- herbicide noxious weeds
- leave logs and snags as wildlife habitat

Restoration of ecological composition:

Reestablishing the plants and animals that will inhabit the area
- burn to release seed bank and control non-native species
- plant or seed native ground and tree species in some areas
- reintroduce insect species

Restoration of ecological function:

Setting up the processes needed to maintain the site
- reintroduce periodic fire
- increase available light
- establish ground cover
- increase water-holding capacity
- reduce erosion
- minimize disturbance

Broadly speaking the site initially requires removal and treatment of invasive species, selective thinning of the canopy to decrease tree canopy coverage, repair of erosion, and limiting vehicular access to the site to prevent further erosion. Mowing and/or prescribed fire should be reintroduced into the site to rejuvenate the ground layer and further control woody vegetation. Prescribed burning is an important management tool for many native plant communities, especially prairies and savannas. While prescribed burning may seem quite easy and effortless, the planning and implementation of prescribed burns require close attention to details related to safety such as weather conditions, crew training, and site characteristics, and impacts on overhead transmission lines. In some cases, the smoke from the fire may cause operational issues with the lines and impact reliability. To ensure minimal impacts, the lines would need to be taken out of service, which would need to be coordinated with the system operations area of Xcel Energy. In certain times of the year, it may be impossible to de-energize the line—especially if the Blue Lake generating plant is running.

The Society for Ecological Restoration (1994) advises that plans for restoration projects should contain, at a minimum, the following items:

1. A baseline ecological description of the kind of ecosystem designated for restoration that accounts for the regional expression of that ecosystem in terms of the biota and poignant features of the abiotic environment.
2. An evaluation of how the proposed restoration will integrate with other components of the regional landscape, especially those aspects of the landscape that may affect the long-term sustainability of the restored ecosystem.
3. Explicit plans and schedules for all on-site preparation and installation activities, including plans for contingencies.
4. Well-developed and explicitly stated performance standards, by which the project can be evaluated objectively.
5. Monitoring protocols by which the performance standards can be measured.
6. Provision for the procurement of suitable planting stocks and for supervision to guarantee their proper installation.
7. Procedures to expedite promptly any needed post-installation maintenance and remediation activities.

The first step in restoring ecological structure, composition and function is the planning and preparation of a resource management plan for the site. The initial step is conceptual planning. Conceptual planning identifies the reasons why restoration is needed and the general strategy for conducting it. Conceptual

planning is conducted when restoration appears to be a feasible option but before a decision has been made to exercise that option.

The initial assessment completed in March indicates that restoration of the site is likely possible, however the site should be surveyed in more detail to document the existing plant species and determine the magnitude of issues related to restoration. Following completion of the assessment process, a restoration and management plan not dissimilar to the Ecological Restoration and Management Plan that the City of Shakopee requires from developers would be completed for the site. However, the plan envisioned here would be directly targeted toward ecological restoration and management of the site.

Xcel Energy would support such a plan if it were compatible with the Company's ROW management of the site and does not impact the reliability of the transmission system. Therefore, a second area of emphasis would be the development of transmission corridor management plans that maximizes the ecological benefits that can be obtained by vegetation management in these corridors. It is possible, through planning and training, to allow these management activities to be as ecologically beneficial as possible to the adjoining plant communities. This could be accomplished by creating a tree removal prioritization process. Such a process would require that an assessment be completed of the natural and management disturbance regimes present, or to be imposed, on the site. This assessment would evaluate the present steady-state condition or designate the expected successional progression and identify the desired plant community within the constraints of the transmission system requirements.

Exotic species should be considered in this analysis, but also native species should be evaluated for their potential threat to indigenous communities. This prioritization scheme could be used to determine highest priority for removals and to determine the highest priority for inclusion in the restored community. Such a strategy for removal within the corridor constraints as to tree height could include:

1) Removal of exotic/invasive species and non-natives should be the highest priority and those removal decisions should include the following considerations.
   a) Highest priority should be given to the control of those exotic/invasive species that pose the greatest threats:
      i) Exotics that replace indigenous key (keystone) species.

ii) Exotics that substantially reduce indigenous species diversity, particularly with respect to the species richness and abundance of conservative species.
iii) Exotics that significantly alter ecosystem or community structure or functions.
iv) Exotics that persist indefinitely as sizable, sexually reproducing or clonally spreading populations.
v) Exotics that are very mobile and/or expanding locally.

b) Next highest priority should be given to introduced non-native, but not necessarily invasive, species.
c) Finally, naturalized species should be removed.

2) Pioneer or weedy tree species, especially those that pose a potential threat to indigenous communities, should be removed.
3) Trees present on the site that are from adjacent communities should be evaluated as to their ecological function and potential threats.
4) Juvenile individuals of the climax tree species from a previous successional stage.
5) Trees present on the site that would be climax species of future successional stage based upon the current or some future disturbance regime.
6) Climax community species would receive the highest inclusion priority.

Implementation of such a plan would require training of Xcel Energy transmission maintenance and clearing crews and inclusion of a restoration ecologist or the site manager of Parcel No. 75 in the management of corridors. All right-of-way decisions would need to be within the constraints of maximum tree height requirements for the transmission lines. As many savanna species can sprout from cut stumps, this will allow for regeneration and management that should benefit the savanna community.